

REMARKS

Favorable reconsideration of this application is respectfully requested.

It is initially noted that proposed drawing changes are submitted with the present response to correct for a minor informality in step S4 of Figure 7A.

Claims 1-20 are pending in this application. Claims 1-4, 6-9, 11-14, and 16-19 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. patent 5,196,835 to Blue et al. (herein “Blue”) in view of U.S. patent 6,215,116 B1 to Van Marcke. Claims 5, 10, 15, and 20 were rejected under 35 U.S.C. §103(a) as unpatentable over Blue and Van Marcke as applied to Claim 3, and further in view of JP 09319501 A to Fumihiko et al. (herein “Fumihiko”).

Addressing now the above-noted rejections, those rejections are traversed by the present response.

It is initially noted that each of the independent claims is amended by the present response to clarify features recited therein. Specifically, independent Claim 1 now additionally recites:

wherein the optical unit includes plural optical elements, wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with the distance from the designating device to the optical elements, and wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.

The other independent claims are similarly amended.

The above-noted features are believed to be fully supported by the original specification. First, it is clear from the original specification the optical unit can include plural optical elements 5. Further, as discussed in the present specification at page 19, line 23 et seq., a lowest threshold value can be set based on the designating device located at a furthest point from the optical unit. Such subject matter is also noted in the present

specification at page 21, lines 13-20, and with reference to Figures 7B and 7C in the present specification, in particular in steps S22, S23.

The above-noted features as clarified in the claims are believed to clearly distinguish over the applied art as none of the cited references teach or suggest the above features. That is, none of the cited references disclose or suggest an optical unit including plural optical elements, calculating thresholds based on detections of the plurality of optical elements, and particularly calculating the first threshold based on the detection of a farthest optical element.

In such ways, each of the currently pending Claims 1-20 is believed to distinguish over the applied art.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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IN THE CLAIMS

Please amend Claims 1, 2, 6, 7, 11, 12, 16 and 17 to read as follows:

--1. (Amended) A coordinate inputting/detecting apparatus, in which a designating device configured to designate a position in an at least substantially flat two-dimensional coordinate inputting/detecting area of the coordinate inputting/detecting apparatus is judged as located in a predetermined range of the coordinate inputting/detecting area when an optical detection signal of an optical unit, configured to optically detect the designating device inserted into the predetermined range of the coordinate inputting/detecting area, exceeds a first threshold value, and in which whether or not the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area is judged and coordinates of a position in the coordinate inputting/detecting area, designated by the designating device inserted in the predetermined range of the coordinate inputting/detecting area, are recognized in accordance with the optical detection signal of the optical unit, wherein a second threshold value used in recognizing the coordinates of the position in the coordinate inputting/detecting area, designated by the designating device inserted in the predetermined range of the coordinate inputting/detecting area, is set to be higher than the first threshold value used in judging if the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area, wherein the optical unit includes plural optical elements, wherein the first and second thresholds are calculated based

on detections by the optical elements in accordance with a distance from the designating device to the optical elements, and wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.

2. (Amended) A coordinate inputting/detecting apparatus, comprising:
 - a two-dimensional coordinate inputting/detecting area that is at least substantially flat;
 - a designating device configured to designate a position in the coordinate inputting/detecting area;
 - an optical unit configured to optically detect the designating device inserted into a predetermined range of the coordinate inputting/detecting area and to output a detection signal according to a result of the detection;
 - a judging device configured to judge whether the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area when the detection signal of the optical unit exceeds a first threshold value;
 - .. a recognition device configured to obtain coordinates of a position in the coordinate inputting/detecting area, designated by the designating device inserted in the predetermined range of the coordinate inputting/detecting area, by utilizing the detection signal; and
 - .. a first threshold value prescribing device configured to prescribe a second threshold value, which is used by the recognition device in obtaining the coordinates of the position in the coordinate inputting/detecting area, designated by the designating device inserted in the predetermined range of the coordinate inputting/detecting area, said second threshold value being higher than the first threshold value,

wherein the optical unit includes plural optical elements,

wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with a distance from the designating device to the optical elements, and

wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.

6. (Amended) A coordinate inputting/detecting apparatus, in which designating means for designating a position on at least substantially flat two-dimensional coordinate inputting/detecting area of the apparatus is judged as located in a predetermined range of the two-dimensional coordinate inputting/detecting area of the apparatus, and in which whether or not the designating means has been inserted into the predetermined range of the coordinate inputting/detecting area is judged by optical detecting means and coordinates of a position in the coordinate inputting/detecting area, designated by the designating means, are recognized, wherein a threshold value used in recognizing the coordinate of the position in the coordinate inputting/detecting area designated by the designating means inserted into the predetermined range of the coordinate inputting/detecting area is set to be higher than a threshold value used in judging if the designating means has been inserted into the predetermined range of the coordinate inputting/detecting area, wherein the optical detecting means includes plural optical elements, wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with a distance from the designating means to the optical elements, and wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating means.

7. (Amended) A coordinate inputting/detecting apparatus, comprising:

a two-dimensional coordinate inputting/detecting area that is at least substantially flat;

designating means for designating a position in the coordinate inputting/detecting area;

optical detecting means for optically detecting the designating means inserted into a predetermined range of the coordinate inputting/detecting area and for outputting a detection signal according to a result of the detection;

judging means for judging whether the designating means has been inserted into the predetermined range of the coordinate inputting/detecting area;

recognizing means for obtaining coordinates of a position in the coordinate inputting/detecting area, designated by the designating means inserted into the predetermined range of the coordinate inputting/detecting area; and

first threshold value prescribing means for prescribing a threshold value used by the recognizing means in obtaining the coordinates of the position in the coordinate inputting/detecting area, designated by the designating means inserted into the predetermined range of the coordinate inputting/detecting area, to be higher than a threshold value used by the judging means in judging whether or not the designating means has been inserted into the predetermined range of the coordinate inputting/detecting area,

wherein the optical unit includes plural optical elements.

wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with a distance from the designating device to the optical elements, and

wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.

11. (Amended) A method of inputting/detecting coordinates of a position designated by a designating device in an at least substantially flat two-dimensional coordinate

inputting/detecting area of a coordinate inputting/detecting apparatus, the method comprising steps of:

judging, by an optical unit, whether the designating device is located in a predetermined range of the two-dimensional coordinate inputting/detecting area of the coordinate inputting/detecting apparatus, when an optical detection signal based on detecting the designating device inserted into the predetermined range of the coordinate inputting/detecting area, exceeds a first threshold value; and

judging whether or not the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area and recognizing coordinates of the position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined range of the coordinate inputting/detecting area, in accordance with the optical detection signal;

wherein a second threshold value used in recognizing the coordinates of a position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined range of the coordinate inputting/detecting area, is set to be higher than the first threshold value used in judging if the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area,

wherein the optical unit includes plural optical elements,

wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with a distance from the designating device to the optical elements, and

wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.

12. (Amended) A method of inputting/detecting coordinates of a position designated by a designating device in an at least substantially flat two-dimensional coordinate inputting/detecting area of a coordinate inputting/detecting apparatus, the method comprising steps of:

optically detecting with an optical detecting device the designating device inserted into a predetermined range of the coordinate inputting/detecting area and outputting a detection signal according to a result of the detection;

judging whether the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area when the detection signal exceeds a first threshold value;

recognizing coordinates of a position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined range of the coordinate inputting/detecting area, by utilizing the detection signal; and

prescribing a second threshold value, which is used in recognizing the coordinates of the position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined range of the coordinate inputting/detecting area, so as to be higher than the first threshold value,

wherein the optical detecting device includes plural optical elements,

wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with a distance from the designating device to the optical elements, and

wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.

16. (Amended) A computer program product, comprising:

a computer storage medium and a computer program code mechanism embedded in the computer storage medium for causing a computer to control inputting/detecting of coordinates of a position designated by a designating device in an at least substantially flat two-dimensional coordinate inputting/detecting area of a coordinate inputting/detecting apparatus, the computer program code mechanism including:

a first computer code device configured to judge whether the designating device is located in a predetermined range of the coordinate inputting/detecting area of the coordinate inputting/detecting apparatus when an optical detection signal of an optical detecting device, that optically detects the designating device inserted into the predetermined range of the coordinate inputting/detecting area, exceeds a first threshold value; and

a second computer code device configured to judge whether or not the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area and to recognize coordinates of a position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined range of the coordinate inputting/detecting area, in accordance with the optical detection signal of the optical detecting device;

wherein a second threshold value used in recognizing the coordinates of the position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined range of the coordinate inputting/detecting area, is set to be higher than the first threshold value used in judging if the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area.

wherein the optical detecting device includes plural optical elements,

wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with a distance from the designating device to the optical elements, and

wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.

17. (Amended) A computer program product, comprising:

a computer storage medium and a computer program code mechanism embedded in the computer storage medium for causing a computer to control inputting/detecting coordinates of a position designated by a designating device in an at least substantially flat two-dimensional coordinate inputting/detecting area of a coordinate inputting/detecting apparatus, the computer program code mechanism including:

a first computer code device configured to optically detect with an optical detecting device the designating device inserted into a predetermined range of the coordinate inputting/detecting area and to output a detection signal according to a result of the detection;

a second computer code device configured to judge whether the designating device has been inserted into the predetermined range of the coordinate inputting/detecting area when the detection signal exceeds a first threshold value;

a third computer code device configured to recognize coordinates of a position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined range of the coordinate inputting/detecting area, by utilizing the detection signal; and

a fourth computer code device configured to prescribe a second threshold value, which is used in recognizing the coordinates of the position in the coordinate inputting/detecting area, designated by the designating device inserted into the predetermined

range of the coordinate inputting/detecting area, so as to be higher than the first threshold value,

wherein the optical detecting means includes plural optical elements,

- wherein the first and second thresholds are calculated based on detections by the optical elements in accordance with a distance from the designating device to the optical elements, and

wherein the first threshold is calculated based on detection of a farthest of the optical elements from the designating device.--